We Claim:

1. A method for fabricating a light-emitting device, which comprises the steps of:

forming at least one compound semiconductor layer based on gallium nitride and being an active layer or a part of an active layer sequence; and

setting growth parameters used during production of the compound semiconductor layer such that, at least in some cases in a vicinity of dislocations in the compound semiconductor layer, regions are produced in the compound semiconductor layer having a lower thickness than remaining regions of the compound semiconductor layer.

2. The method according to claim 1, which further comprises:

providing a substrate;

forming a first coating layer formed from a compound semiconductor based on gallium nitride of a first conductivity type on the substrate;

forming the compound semiconductor layer, as a light-emitting layer, over the first coating layer; and

forming a second coating layer formed from a compound semiconductor based on gallium nitride of a second conductivity type over the light-emitting layer, a composition of the compound semiconductor layer based on gallium nitride differing from a composition of the compound semiconductor of the first and second coating layers.

3. The method according to claim 1, which further comprises forming the regions with the lower thickness to be less than half as thick as the remaining regions of the compound semiconductor layer.

4. The method according to claim 1, which further comprises forming the compound semiconductor layer from an $In_xAl_yGa_{1-x-y}N$ compound semiconductor, where $0 \leq x \leq 1$, $0 \leq y \leq 1$ and $x + y \leq 1$.

5. The method according to claim 4, which further comprises setting $x = 0$.

6. The method according to claim 2, which further comprises doping the light-emitting layer with a p-type foreign substance and/or an n-type foreign substance.

7. The method according to claim 2, which further comprises forming the first coating layer from a $Ga_uAl_{1-u}N$ compound semiconductor where $0 < u \leq 1$.

8. The method according to claim 2, which further comprises forming the second coating layer from a $Ga_vAl_{1-v}N$ compound semiconductor where $0 < v \leq 1$.

9. The method according to claim 2, which further comprises forming the first coating layer, the compound semiconductor layer and the second coating layer in succession on the substrate using a metal organic chemical vapor deposition process.

10. The method according to claim 2, which further comprises forming a buffer layer on the substrate, and the first coating layer is then formed on the buffer layer.

11. The method according to claim 10, which further comprises forming the buffer layer from a $Ga_mAl_{1-m}N$ compound semiconductor where $0 \leq m \leq 1$.

12. The method according to claim 2, which further comprises forming the substrate from a material selected from the group

consisting of sapphire, silicon carbide, zinc oxide and gallium nitride.

13. The method according to claim 1, which further comprises forming the active layer sequence with a quantum film structure.

14. The method according to claim 13, which further comprises forming the quantum film structure to include at least one GaN quantum film.

15. The method according to claim 14, which further comprises forming the quantum film structure as an InGaN/GaN quantum film structure.

16. The method according to claim 13, which further comprises forming the quantum film structure with at least one undoped GaN quantum film.

17. The method according to claim 13, which further comprises forming the compound semiconductor layer with a GaN quantum film or with an intrinsic GaN quantum film.

18. A light-emitting device based on a gallium nitride-based compound semiconductor, comprising:

a layer selected from the group consisting of an active layer and layer sequence, said layer having a compound semiconductor layer formed from gallium nitride, said compound semiconductor layer having dislocations for increasing a quantum yield of the light-emitting device, and in a vicinity of said dislocations said compound semiconductor layer having regions with a lower thickness than remaining regions of said compound semiconductor layer.

19. The light-emitting device according to claim 18, further comprising:

a first coating layer of a first conductivity type; and

a second coating layer of a second conductivity type, said compound semiconductor layer is a light-emitting layer disposed between said first coating layer and said second coating layer.

20. The light-emitting device according to claim 19, wherein:

said first coating layer is formed from an n-type compound semiconductor based on gallium nitride which differs from that of a compound semiconductor forming said light-emitting layer; and

said second coating layer is formed from a p-type compound semiconductor based on gallium nitride which differs from that of said compound semiconductor forming said light-emitting layer.

21. The light-emitting device according to claim 18, wherein said regions with said lower thickness are at least in part less than half as thick as said remaining regions of said compound semiconductor layer.

22. The light-emitting device according to claim 18, wherein said compound semiconductor layer is formed from an $In_xAl_yGa_{1-x-y}N$ compound semiconductor, where $0 \leq x \leq 1$, $0 \leq y \leq 1$ and $x + y \leq 1$.

23. The light-emitting device according to claim 22, wherein $x = 0$.

24. The light-emitting device according to claim 22, wherein $0 < x < 0.5$ and $y = 0$.

25. The light-emitting device according to claim 18, wherein said compound semiconductor layer is doped with a p-type foreign substance and/or an n-type foreign substance.

26. The light-emitting device according to claim 19, wherein said first coating layer is formed from a $Ga_uAl_{1-u}N$ compound semiconductor where $0 < u \leq 1$.

27. The light-emitting device according to claim 19, wherein said second coating layer is formed from a $Ga_vAl_{1-v}N$ compound semiconductor where $0 < v \leq 1$.

28. The light-emitting device according to claim 18, wherein said layer sequence includes a quantum film structure.

29. The light-emitting device according to claim 28, wherein said quantum film structure includes at least one GaN quantum film.

30. The light-emitting device according to claim 28, wherein said quantum film structure is an InGaN/GaN quantum film structure.

31. The light-emitting device according to claim 28, wherein said quantum film structure contains at least one intrinsic GaN quantum film.

32. The light-emitting device according to claim 28, wherein said compound semiconductor layer is formed by a GaN quantum film.

33. The light-emitting device according to claim 28, wherein said compound semiconductor layer is formed by an intrinsic GaN quantum film.